

# **DEFENCE PROCUREMENT IN SINGAPORE**

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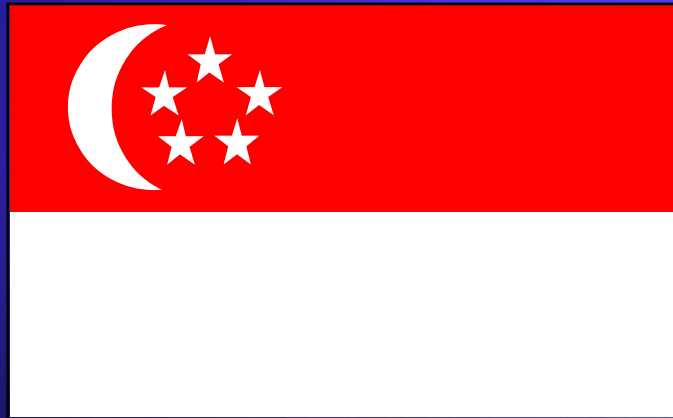
Defence Science & Technology  
Agency



# Scope of Presentation

- ❖ Introduction
- ❖ The Technological Edge
- ❖ Procurement System
- ❖ Defence Science & Technology Agency
- ❖ Conclusion

# Republic of Singapore



- ❖ Land area : 650 sq km
- ❖ Population : 4 million people

# Singapore Economy

- ❖ Limited resources - people & land
- ❖ Open economy - member of 1994 WTO Agreement
- ❖ Educated & trained workforce and well-developed infrastructure
- ❖ Good Economic Progress due to stable and secure environment
- ❖ Singapore is committed to Defence
  - up to 6% of GDP



# Role of Technology

Limitations  
of size &  
resource

Technology as  
force multiplier



# Integrated Defence Development

- ❖ Integration of Operations & Technology
- ❖ Integration over people & organisations in
  - MINDEF
  - SAF
  - local defence industry
  - academic & research institutions

# The Technological Edge

- ❖ Customisation

- ✓ to meet SAF's unique requirements & local conditions
- ✓ to understand & exploit performance limits of systems



# The Technological Edge

- ❖ Customisation
- ❖ Life-Cycle Management (LCM) Methodology
  - ✓ Recognises full life-cycle cost

- ✓ Thorough planning & evaluation
  - trade-off decisions
  - upgrade vs replacement



# The Technological Edge\_

- ❖ Customisation
  - ❖ Life-Cycle Management (LCM) Methodology
  - ❖ Smart Buying & Systems Engineering
    - Exploit marketplace efficiency
    - Acquire capability cost effectively
- 
- ✓ Strong systems engineering capability
  - ✓ Integration & Upgrade of systems

A4 Upgrade



F5 Upgrade



Locally Designed Patrol  
Vessels



# The Technological Edge\_

- ❖ Customisation
- ❖ Life-Cycle Management (LCM) Methodology
- ❖ Smart Buying & Systems Engineering
- ❖ Operations -Technology Integration
  - Close interaction at all levels
  - Shorter development cycle



Landing Ship Tank



Bionix Infantry Fighting Vehicle



SAR21 Assault Rifle

# Procurement System

- ♦ ISO-certified
- ♦ Open & Transparent System
- ♦ Checks & Balances
- ♦ Direct Dealing
- ♦ Seek most cost-effective systems that meet requirements



# Procurement System

- ❖ Analytical Hierarchy Process (AHP) evaluation
  - for major programmes
  - two-envelope system
- ❖ Every offer evaluated on its own merit
- ❖ No preference for any country or source

# Commercial-Off-The-Shelf (COTS)

- ❖ Adopt & adapt COTS technologies & equipment for military use
  - ✓ benefits of emerging technology
  - ✓ less need for customisation
  - ✓ shorten development cycles
  - ✓ provide better supportability
  - ✓ reduce overall life cycle costs

# Tapping on the Internet

- ❖ MINDEF Internet Procurement System (MIPS)
  - ✓ launched in Apr 98
  - ✓ employs Public Key Encryption Technology for security
  - ✓ provides equal opportunity to all suppliers - local & overseas



# Tapping on the Internet

- ✓ Integrated into supply chain
- ✓ Seamless Process - from requisition to invoicing & payment to inventory management
- ✓ spearhead public procurement in cyberspace
- ✓ being adapted for use civil-service wide

***(MIPS website:***

***<http://www.mips.mindef.gov.sg>)***

# Lease-to-Own Arrangement

- ❖ Not commercial practice for military equipment

## Issues

- ❖ US government did not handle such deals
  - ✓ need special approval to work out deal directly with contractor
  - ✓ secure better terms than FMS Letter of Acceptance
  - ✓ win-win situation for both aircraft manufacturer & MINDEF

# Lease-to-Own Arrangement



F16



Chinook Helicopters



# Partnership Agreements

- ❖ Long-Term contracts for strategic requirements
- ❖ Aircraft maintenance contract with ST Aerospace
  - ✓ TAT improved by 12% (2 mths)
  - ✓ \$2M annual cost savings
- ❖ Design-Build-and-Operate Warehouse
  - ✓ Open-book approach
  - ✓ Jointly identify better solutions

# **Defence Science & Technology Agency**



# To Separate

- Core Functions  
(policy formulation,  
planning  
and resource allocation)
- Service Provider Functions  
(including flexibility and  
autonomy  
to make decisions)



- Defence Science & Technology Agency was formed on 15 Mar 2000
- A statutory board legislated by Act of Parliament
- Empowered to act on Mindef's behalf
- Flexibility and autonomy for its business operation
- Better anticipate and respond to changes

# Mission

To harness science &  
technology to meet the  
defence & national security  
needs of Singapore

# Roles & Functions

- **Defence Procurement Agency**
- **Implement technology plans of MINDEF**
  - acquire defence materiel
  - develop military infrastructure
  - develop information systems
  - manage defence R&D
  - conduct defence medical research
  - promote technological co-operation
- **Advise MINDEF on science & technology matters**
- **Promote defence science & technology**



# Organisation Structure

**Chief Executive**

**Dy Chief Executive (Operations)**

**Dy Chief Executive (Strategic Development)**

**Systems Engineering**

**Plans / CIO**

**International Relations**

**Defence Tech Offices**

**Human Resource**

**Corporate Services**

**Internal Audit**

**Industry Development**

**Corporate HQ**

**Air Materiel**

**Naval Materiel**

**Land Materiel**

**Building & Infrastructure**

**Defence Procurement**

**Directorate of R&D**

**Defence Info Systems**

**Programme Management**

**CSO Development Laboratory**

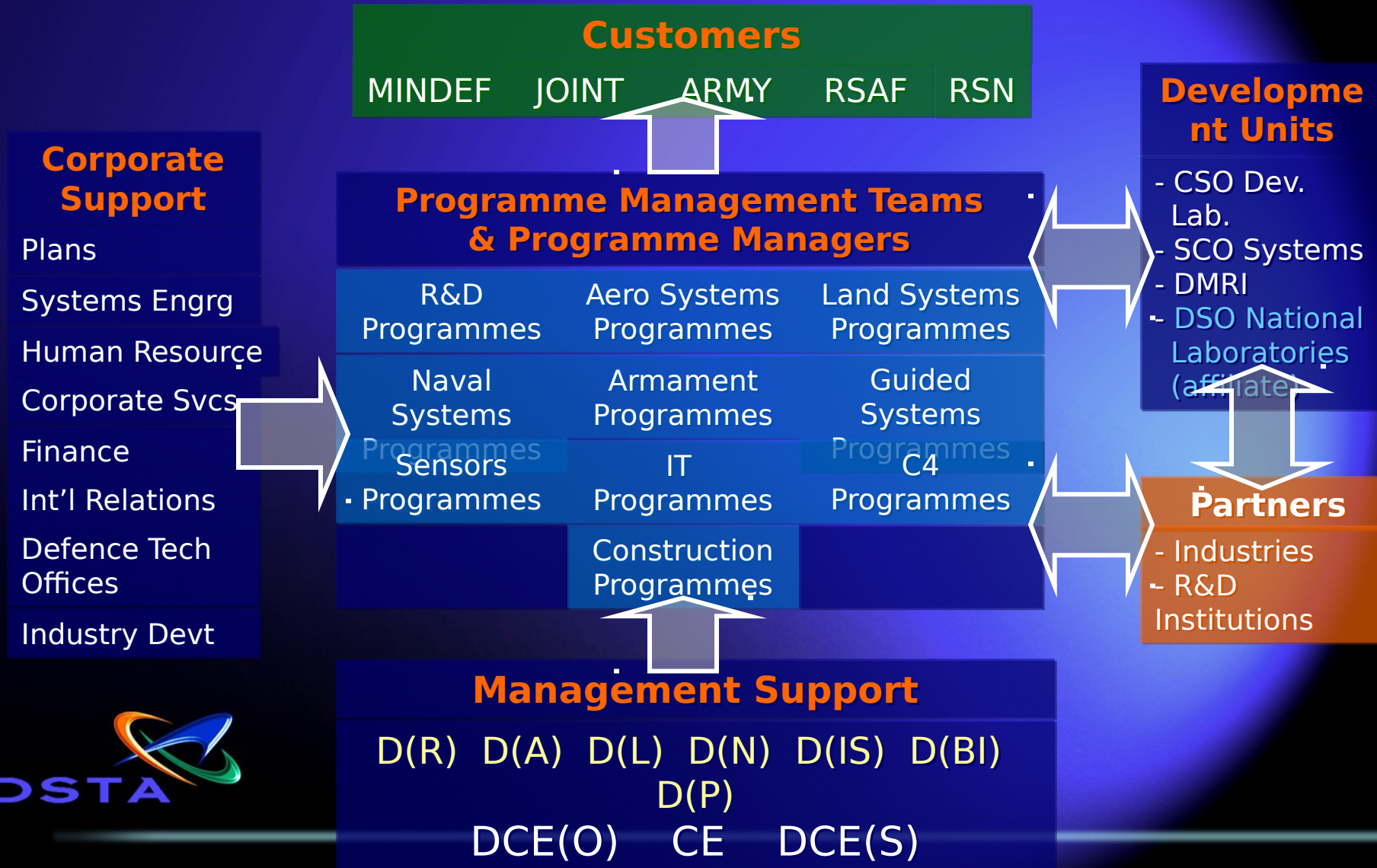
**SCO Systems**

**DMRI**

**DSO National Laboratories**

**Research & Development Units**

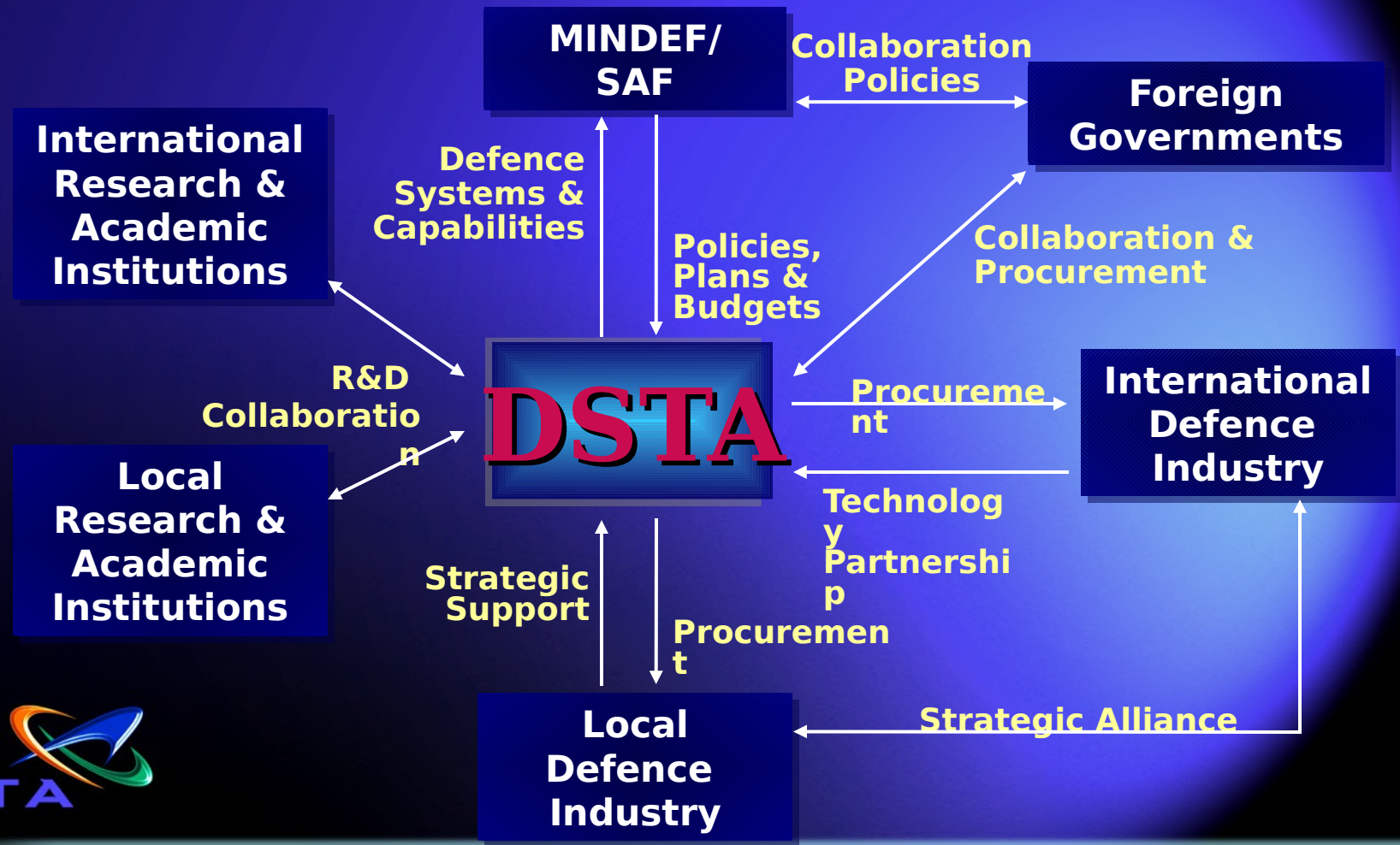
# Programme-Centric Organisation



- Industry Development
  - promotes Technology capability build up
  - facilitates defence export
- International Relations, and Defence Technology Offices
  - promote technology co-operation with foreign establishments
  - provide assistance in project management



# DSTA Linkages with External Parties



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***Thank You!***